

Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice (Safe Work Australia, December 2011)

SECTION 1: Identification

1.1. Product identifier

3M[™] Foam Fast 74 Cylinder Spray Adhesive, Clear

Product Identification Numbers 62-4974-8030-1

1.2. Recommended use and restrictions on use

Recommended use

Adhesive., Industrial use.

For Industrial or Professional use only.

1.3. Supplier's details

Address:	3M Australia - Building A, 1 Rivett Road, North Ryde NSW 2113
Telephone:	136 136
E Mail:	productinfo.au@mmm.com
Website:	www.3m.com.au

1.4. Emergency telephone number EMERGENCY: 1800 097 146 (Australia only)

SECTION 2: Hazard identification

This product is classified as a hazardous chemical according to the Model Work Health and Safety Regulations, 2011, in accordance with applicable State and Territory legislation.

Refer to Section 14 of this Safety Data Sheets for product Dangerous Goods Classification.

2.1. Classification of the substance or mixture

Flammable Liquid: Category 1. Serious Eye Damage/Irritation: Category 1. Reproductive Toxicity: Category 1. Specific Target Organ Toxicity (single exposure): Category 2. Specific Target Organ Toxicity (single exposure): Category 3

2.2. Label elements

The label elements below were prepared in accordance with the Code of Practice on Preparation of Safety Data Sheets for Hazardous Chemicals (Safe Work Australia, December 2011). This information may be different from the actual product label.

Signal word

Danger

Symbols

Flame |Corrosion |Exclamation mark |Health Hazard |

Pictograms



Hazard statements			
H224	Extremely flammable liquid and vapour.		
H318	Causes serious eye damage.		
H360	May damage fertility or the unborn child.		
H336	May cause drowsiness or dizziness.		
H371	May cause damage to organs: cardiovascular system.		
Precautionary statements			
Prevention:			
P201	Obtain special instructions before use.		
P202	Do not handle until all safety precautions have been read and understood.		
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.		
P233	Keep container tightly closed.		
P240	Ground and bond container and receiving equipment.		
P241	Use explosion-proof electrical, ventilating and lighting equipment.		
P242	Use non-sparking tools.		
P243	Take action to prevent static discharges.		
P260	Do not breathe dust/fume/gas/mist/vapours/spray.		
P264	Wash thoroughly after handling.		
P270	Do not eat, drink or smoke when using this product.		
P271	Use only outdoors or in a well-ventilated area.		
P280I	Wear protective gloves, eye/face protection, and respiratory protection.		
Response:			
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.		
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.		
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact		
	lenses, if present and easy to do. Continue rinsing.		
P310	Immediately call a POISON CENTRE or doctor/physician.		
P370 + P378	In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.		
Storage:			

P403 + P235 P405	Store in a well-ventilated place. Keep cool. Store locked up.
Disposal: P501	Dispose of contents/container in accordance with applicable
	local/regional/national/international regulations.

2.3. Other assigned/identified product hazards

A similar mixture has been tested for eye damage/irritation and the test results are reflected in the assigned classification. A similar mixture has been tested for skin corrosion/irritation and the test results are reflected in the assigned classification. May displace oxygen and cause rapid suffocation.

2.4. Other hazards which do not result in classification

Causes mild skin irritation. Toxic to aquatic life.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Weight	
Non-Volatile Components	Trade Secret	5 - 40	
Dimethyl Ether	115-10-6	20 - 30	
Acetone	67-64-1	10 - 20	
Terpene polymer	31393-98-3	10 - 20	
Pentane	109-66-0	5 - 15	
Isobutane	75-28-5	< 10	
Methyl Acetate	79-20-9	5 - 10	
Propane	74-98-6	< 10	
Cyclohexane	110-82-7	1 - 5	
Hydrotreated Heavy Naphtha (Petroleum)	64742-48-9	1 - 5	
toluene	108-88-3	< 1	

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation

Remove person to fresh air. Get medical attention.

Skin contact

Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye contact

Immediately flush with large amounts of water for at least 15 minutes. Remove contact lenses if easy to do. Continue rinsing. Immediately get medical attention.

If swallowed

Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Serious damage to the eyes (corneal cloudiness, severe pain, tearing, ulcerations, and significantly impaired or loss of vision). Central nervous system depression (headache, dizziness, drowsiness, incoordination, nausea, slurred speech, giddiness, and unconsciousness). Target organ effects. See Section 11 for additional details.

4.3. Indication of any immediate medical attention and special treatment required

Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

5.2. Special hazards arising from the substance or mixture

Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products

Substance	Condition
Aldehydes.	During combustion.
Hydrocarbons.	During combustion.
Formaldehyde	During combustion.
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.

5.3. Special protective actions for fire-fighters

Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

Hazchem Code: 2YE

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. WARNING ! A motor could be an ignition source and could cause flammable gases or vapours in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment. For larger spills, cover drains and build dykes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up

Contain spill. Cover spill area with a fire-extinguishing foam. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible using non-sparking tools. Place in a metal container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorised person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and Safety Data Sheet. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

For industrial/occupational use only. Not for consumer sale or use. Do not handle until all safety precautions have been

read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.) Wear low static or properly grounded shoes. Use personal protective equipment (eg. gloves, respirators...) as required. To minimize the risk of ignition, determine applicable electrical classifications for the process using this product and select specific local exhaust ventilation equipment to avoid flammable vapour accumulation. Ground/bond container and receiving equipment if there is potential for static electricity accumulation during transfer.

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store away from heat. Store away from acids. Store away from oxidising agents.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
toluene	108-88-3	ACGIH	TWA:20 ppm	A4: Not class. as human
				carcinogen, Ototoxicant
toluene	108-88-3	Australia OELs	TWA(8 hours):191 mg/m3(50	SKIN
			ppm);STEL(15 minutes):574	
			mg/m3(150 ppm)	
Pentane	109-66-0	ACGIH	TWA:1000 ppm	
Pentane	109-66-0	Australia OELs	TWA(8 hours):1770	
			mg/m3(600 ppm);STEL(15	
			minutes):2210 mg/m3(750	
			ppm)	
Cyclohexane	110-82-7	ACGIH	TWA:100 ppm	
Cyclohexane	110-82-7	Australia OELs	TWA(8 hours):350	
5			mg/m3(100 ppm);STEL(15	
			minutes):1050 mg/m3(300	
			ppm)	
Dimethyl Ether	115-10-6	AIHA	TWA:1880 mg/m3(1000 ppm)	
Dimethyl Ether	115-10-6	Australia OELs	TWA(8 hours):760	
5			mg/m3(400 ppm);STEL(15	
			minutes):950 mg/m3(500 ppm)	
Acetone	67-64-1	ACGIH	TWA:250 ppm;STEL:500 ppm	A4: Not class. as human
				carcin
Acetone	67-64-1	Australia OELs	TWA(8 hours):1185	
			mg/m3(500 ppm);STEL(15	
			minutes):2375 mg/m3(1000	
			ppm)	
Propane	74-98-6	ACGIH	Limit value not established:	asphyxiant
Propane	74-98-6	Australia OELs	Limit value not established:	Explosion hazard,
Ĩ				asphyxiant
Isobutane	75-28-5	ACGIH	STEL:1000 ppm	
Methyl Acetate	79-20-9	ACGIH	TWA:200 ppm;STEL:250 ppm	
Methyl Acetate	79-20-9	Australia OELs	TWA(8 hours):606	
<i>y</i>			mg/m3(200 ppm);STEL(15	
			minutes):757 mg/m3(250 ppm)	

ACGIH : American Conference of Governmental Industrial Hygienists AIHA : American Industrial Hygiene Association Australia OELs : Australia. Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment CMRG : Chemical Manufacturer's Recommended Guidelines TWA: Time-Weighted-Average STEL: Short Term Exposure Limit CEIL: Ceiling Sen: Sensitiser Sk: Absorption through the skin may be a significant source of exposure.

8.2. Exposure controls

8.2.1. Engineering controls

Do not remain in area where available oxygen may be reduced. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapours/spray. If ventilation is not adequate, use respiratory protection equipment. Use explosion-proof ventilation equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended: Full face shield. Indirect vented goggles.

Select and use eye protection in accordance with AS/NZS 1336. Eye protection should comply with the performance specifications of AS/NZS 1337.

Skin/hand protection

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity. Gloves made from the following material(s) are recommended: Polymer laminate

Select and use gloves according to AS/NZ 2161.

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece air-purifying respirator suitable for organic vapours and particulates

Half facepiece or full facepiece supplied-air respirator.

Organic vapour respirators may have short service life.

For questions about suitability for a specific application, consult with your respirator manufacturer. Select and use respirators according to AS/NZS 1715. Respirators should comply with AS/NZS 1716 performance specifications. For information about respirators, call 3M on 1800 024 464.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Colour	Colorless

Odour	Solvent	
Odour threshold		
	No data available.	
рН	Not applicable.	
Melting point/Freezing point	Not applicable.	
Boiling point/Initial boiling point/Boiling range	<=20 °C	
Flash point	-45.6 °C [Test Method:Closed Cup] [Details:Flammable Gas]	
Evaporation rate	No data available.	
Flammability (solid, gas)	Not applicable.	
Flammable Limits(LEL)	1.2 % volume	
Flammable Limits(UEL)	27 % volume	
Vapour pressure	583985.9 Pa [@ 20 °C]	
Vapor Density and/or Relative Vapor Density	>=1 [<i>Ref Std</i> :AIR=1]	
Density	0.716 g/ml	
Relative density	0.716 [<i>Ref Std</i> :WATER=1]	
Water solubility	Nil	
Solubility- non-water	No data available.	
Partition coefficient: n-octanol/water	No data available.	
Autoignition temperature	No data available.	
Decomposition temperature	No data available.	
Viscosity/Kinematic Viscosity	Not applicable.	
Volatile organic compounds (VOC)	No data available.	
Percent volatile	No data available.	
VOC less H2O & exempt solvents	<=524 g/l [<i>Test Method</i> :calculated SCAQMD rule 443.1]	
Solids content	20 - 40 % weight	

SECTION 10: Stability and reactivity

10.1 Reactivity

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section

10.2 Chemical stability

Stable.

10.3. Conditions to avoid

Heat. Sparks and/or flames.

10.4. Possibility of hazardous reactions Hazardous polymerisation will not occur.

10.5 Incompatible materials

Strong oxidising agents.

10.6 Hazardous decomposition products

Substance

None known.

Condition

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labelling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1 Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation

Simple asphyxiation: Signs/symptoms may include increased heart rate, rapid respirations, drowsiness, headache, incoordination, altered judgement, nausea, vomiting, lethargy, seizures, coma, and may be fatal. Respiratory tract irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. May cause additional health effects (see below).

Skin contact

Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness. May cause additional health effects (see below).

Eye contact

Corrosive (eye burns): Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.

Ingestion

Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea. May cause additional health effects (see below).

Additional Health Effects:

Single exposure may cause target organ effects:

Central nervous system (CNS) depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness. Single exposure, above recommended guidelines, may cause: Cardiac Sensitization: Signs/symptoms may include irregular heartbeat (arrhythmia), faintness, chest pain, and may be fatal.

Reproductive/Developmental Toxicity:

Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Inhalation-Vapour(4 hr)		No data available; calculated ATE >50 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Dimethyl Ether	Inhalation-Gas (4 hours)	Rat	LC50 164,000 ppm
Acetone	Dermal	Rabbit	LD50 > 15,688 mg/kg
Acetone	Inhalation-Vapour (4 hours)	Rat	LC50 76 mg/l
Acetone	Ingestion	Rat	LD50 5,800 mg/kg
Isobutane	Inhalation-Gas (4 hours)	Rat	LC50 276,000 ppm
Pentane	Dermal	Rabbit	LD50 3,000 mg/kg

Pentane	Inhalation-Vapour (4 hours)	Rat	LC50 > 18 mg/l
Pentane	Ingestion	Rat	LD50 > 2,000 mg/kg
Propane	Inhalation-Gas (4 hours)	Rat	LC50 > 200,000 ppm
Terpene polymer	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
Terpene polymer	Ingestion	Rat	LD50 > 2,000 mg/kg
Non-Volatile Components	Dermal	Rabbit	LD50 > 2,000 mg/kg
Non-Volatile Components	Ingestion	Rat	LD50 > 5,000 mg/kg
Methyl Acetate	Dermal	Rat	LD50 > 2,000 mg/kg
Methyl Acetate	Inhalation-Vapour (4 hours)	Rat	LC50 > 49 mg/l
Methyl Acetate	Ingestion	Rat	LD50 > 5,000 mg/kg
Cyclohexane	Dermal	Rat	LD50 > 2,000 mg/kg
Cyclohexane	Inhalation-Vapour (4 hours)	Rat	LC50 > 32.9 mg/l
Cyclohexane	Ingestion	Rat	LD50 6,200 mg/kg
Hydrotreated Heavy Naphtha (Petroleum)	Inhalation-Vapour		LC50 estimated to be 20 - 50 mg/l
Hydrotreated Heavy Naphtha (Petroleum)	Dermal	Rabbit	LD50 > 5,000 mg/kg
Hydrotreated Heavy Naphtha (Petroleum)	Ingestion	Rat	LD50 > 5,000 mg/kg
toluene	Dermal	Rat	LD50 12,000 mg/kg
toluene	Inhalation-Vapour (4 hours)	Rat	LC50 30 mg/l
toluene	Ingestion	Rat	LD50 5,550 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Overall product	Rabbit	Mild irritant
Acetone	Mouse	Minimal irritation
Isobutane	Professional judgement	No significant irritation
Pentane	Rabbit	Minimal irritation
Propane	Rabbit	Minimal irritation
Terpene polymer	In vitro data	No significant irritation
Non-Volatile Components	Professional judgement	No significant irritation
Methyl Acetate	Rabbit	No significant irritation
Cyclohexane	Rabbit	Mild irritant
Hydrotreated Heavy Naphtha (Petroleum)	Rabbit	Minimal irritation
toluene	Rabbit	Irritant

Serious Eye Damage/Irritation

Name	Species	Value
	D 11:	
Overall product	Rabbit	Corrosive
Acetone	Rabbit	Severe irritant
Isobutane	Professional judgement	No significant irritation
Pentane	Rabbit	Mild irritant
Propane	Rabbit	Mild irritant
Terpene polymer	In vitro data	No significant irritation
Methyl Acetate	Rabbit	Moderate irritant
Cyclohexane	Rabbit	Mild irritant
Hydrotreated Heavy Naphtha (Petroleum)	Rabbit	Mild irritant
toluene	Rabbit	Moderate irritant

Skin Sensitisation

Name	Species	Value
Pentane	Guinea pig	Not classified
Terpene polymer	Multiple animal species	Not classified
Methyl Acetate	Human	Not classified
Hydrotreated Heavy Naphtha (Petroleum)	Guinea pig	Not classified
toluene	Guinea pig	Not classified

Respiratory Sensitisation

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

Name	Route	Value
Dimethyl Ether	In Vitro	Not mutagenic
Dimethyl Ether	In vivo	Not mutagenic
Acetone	In vivo	Not mutagenic
Acetone	In Vitro	Some positive data exist, but the data are not sufficient for classification
Isobutane	In Vitro	Not mutagenic
Pentane	In vivo	Not mutagenic
Pentane	In Vitro	Some positive data exist, but the data are not sufficient for classification
Propane	In Vitro	Not mutagenic
Terpene polymer	In Vitro	Not mutagenic
Methyl Acetate	In Vitro	Not mutagenic
Methyl Acetate	In vivo	Not mutagenic
Cyclohexane	In Vitro	Not mutagenic
Cyclohexane	In vivo	Some positive data exist, but the data are not sufficient for classification
Hydrotreated Heavy Naphtha (Petroleum)	In Vitro	Not mutagenic
Hydrotreated Heavy Naphtha (Petroleum)	In vivo	Not mutagenic
toluene	In Vitro	Not mutagenic
toluene	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Dimethyl Ether	Inhalation	Rat	Not carcinogenic
Acetone	Not specified.	Multiple animal species	Not carcinogenic
Hydrotreated Heavy Naphtha (Petroleum)	Not specified.	Not available	Not carcinogenic
toluene	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
toluene	Ingestion	Rat	Some positive data exist, but the data are not sufficient for classification
toluene	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Dimethyl Ether	Inhalation	Inhalation Not classified for		NOAEL	during
		development		40,000 ppm	organogenesis

Acetone	Ingestion	Not classified for	Rat	NOAEL	13 weeks
		male reproduction		1,700	
				mg/kg/day	
Acetone	Inhalation	Not classified for	Rat	NOAEL 5.2	during
		development		mg/l	organogenesis
Pentane	Ingestion	Not classified for	Rat	NOAEL	during
		development		1,000	organogenesis
				mg/kg/day	
Pentane	Inhalation	Not classified for	Rat	NOAEL 30	during
		development		mg/l	organogenesis
Cyclohexane	Inhalation	Not classified for	Rat	NOAEL 24	2 generation
		female reproduction		mg/l	
Cyclohexane	Inhalation	Not classified for	Rat	NOAEL 24	2 generation
		male reproduction		mg/l	
Cyclohexane	Inhalation	Not classified for	Rat	NOAEL 6.9	2 generation
		development		mg/l	
Hydrotreated Heavy	Not specified.	Not classified for	Not available	NOAEL NA	1 generation
Naphtha (Petroleum)		female reproduction			
Hydrotreated Heavy	Not specified.	Not classified for	Not available	NOAEL NA	28 days
Naphtha (Petroleum)		male reproduction			
Hydrotreated Heavy	Not specified.	Not classified for	Not applicable	NOAEL NA	during gestation
Naphtha (Petroleum)		development			
toluene	Inhalation	Not classified for	Human	NOAEL Not	occupational
		female reproduction		available	exposure
toluene	Inhalation	Not classified for	Rat	NOAEL 2.3	1 generation
		male reproduction		mg/l	
toluene	Ingestion	Toxic to development	Rat	LOAEL 520	during gestation
				mg/kg/day	
toluene	Inhalation	Toxic to development	Human	NOAEL Not	poisoning and/or
				available	abuse

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Dimethyl Ether	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Rat	LOAEL 10,000 ppm	30 minutes
Dimethyl Ether	Inhalation	cardiac sensitization	Some positive data exist, but the data are not sufficient for classification	Dog	NOAEL 100,000 ppm	5 minutes
Acetone	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Acetone	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Acetone	Inhalation	immune system	Not classified	Human	NOAEL 1.19 mg/l	6 hours
Acetone	Inhalation	liver	Not classified	Guinea pig	NOAEL Not available	
Acetone	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
Isobutane	Inhalation	cardiac	Causes damage to	Multiple	NOAEL Not	

		sensitization	organs	animal species	available	
Isobutane	Inhalation	central nervous	May cause	Human and	NOAEL Not	
		system	drowsiness or	animal	available	
		depression	dizziness			
Isobutane	Inhalation	respiratory irritation	Not classified	Mouse	NOAEL Not available	
Pentane	Inhalation	central nervous	May cause	Multiple	NOAEL Not	not available
		system	drowsiness or	animal species	available	
_		depression	dizziness			
Pentane	Inhalation	respiratory	Some positive	Not available	NOAEL Not	not available
		irritation	data exist, but the data are not		available	
			sufficient for			
			classification			
Pentane	Inhalation	cardiac	Not classified	Dog	NOAEL Not	not available
		sensitization	1 tot enabolited	208	available	novuvunuore
Pentane	Ingestion	central nervous	May cause	Professional	NOAEL Not	not available
	C	system	drowsiness or	judgement	available	
		depression	dizziness			
Propane	Inhalation	cardiac	Causes damage to	Human	NOAEL Not	
		sensitization	organs		available	
Propane	Inhalation	central nervous	May cause	Human	NOAEL Not	
		system	drowsiness or		available	
D	Inhalation	depression	dizziness	TT	NOATING	
Propane	Inhalation	respiratory irritation	Not classified	Human	NOAEL Not available	
Methyl	Inhalation	central nervous	May cause	Human and	NOAEL Not	
Acetate	minaration	system	drowsiness or	animal	available	
rectate		depression	dizziness	ammai	available	
Methyl	Inhalation	respiratory	May cause	Human and	NOAEL Not	
Acetate		irritation	respiratory	animal	available	
			irritation			
Methyl	Inhalation	blindness	Not classified		NOAEL Not	
Acetate					available	
Methyl	Ingestion	central nervous	May cause		NOAEL Not	
Acetate		system	drowsiness or		available	
Cyclobayana	Inhalation	depression central nervous	dizziness May appea	Human and	NOAEL Not	
Cyclohexane	Innalation	system	May cause drowsiness or	animal	available	
		depression	dizziness	ammai	available	
Cyclohexane	Inhalation	respiratory	Some positive	Human and	NOAEL Not	
5		irritation	data exist, but the	animal	available	
			data are not			
			sufficient for			
~			classification			
Cyclohexane	Ingestion	central nervous	May cause	Professional	NOAEL Not	
		system depression	drowsiness or dizziness	judgement	available	
toluene	Inhalation	central nervous	May cause	Human	NOAEL Not	
torucile	maiation	system	drowsiness or	iluman	available	
		depression	dizziness		uvulluoite	
toluene	Inhalation	respiratory	Some positive	Human	NOAEL Not	1
		irritation	data exist, but the		available	
			data are not			
			sufficient for			
. 1			classification			
toluene	Inhalation	immune system	Not classified	Mouse	NOAEL 0.004 mg/l	3 hours
toluene	Ingestion	central nervous	May cause	Human	NOAEL Not	poisoning and/or
		system	drowsiness or		available	abuse
		depression	dizziness			

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Dimethyl Ether	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 25,000 ppm	2 years
Dimethyl Ether	Inhalation	liver	Not classified	Rat	NOAEL 20,000 ppm	30 weeks
Acetone	Dermal	eyes	Not classified	Guinea pig	NOAEL Not available	3 weeks
Acetone	Inhalation	hematopoietic system	Not classified	Human	NOAEL 3 mg/l	6 weeks
Acetone	Inhalation	immune system	Not classified	Human	NOAEL 1.19 mg/l	6 days
Acetone	Inhalation	kidney and/or bladder	Not classified	Guinea pig	NOAEL 119 mg/l	not available
Acetone	Inhalation	heart liver	Not classified	Rat	NOAEL 45 mg/l	8 weeks
Acetone	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 900 mg/kg/day	13 weeks
Acetone	Ingestion	heart	Not classified	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Acetone	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 200 mg/kg/day	13 weeks
Acetone	Ingestion	liver	Not classified	Mouse	NOAEL 3,896 mg/kg/day	14 days
Acetone	Ingestion	eyes	Not classified	Rat	NOAEL 3,400 mg/kg/day	13 weeks
Acetone	Ingestion	respiratory system	Not classified	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Acetone	Ingestion	muscles	Not classified	Rat	NOAEL 2,500 mg/kg	13 weeks
Acetone	Ingestion	skin bone, teeth, nails, and/or hair	Not classified	Mouse	NOAEL 11,298 mg/kg/day	13 weeks
Isobutane	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 4,500 ppm	13 weeks
Pentane	Inhalation	peripheral nervous system	Not classified	Human	NOAEL Not available	occupational exposure
Pentane	Inhalation	heart skin endocrine system gastrointestinal tract bone, teeth, nails, and/or hair hematopoietic system liver immune system muscles nervous system eyes kidney and/or bladder respiratory system	Not classified	Rat	NOAEL 20 mg/l	13 weeks
Pentane	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 2,000 mg/kg/day	28 days
Terpene polymer	Ingestion	heart gastrointestinal tract hematopoietic	Not classified	Rat	NOAEL 331 mg/kg/day	90 days

Specific Target Organ Toxicity - repeated exposure

	1		T	1	1	1
		system liver nervous system eyes kidney and/or bladder				
Methyl Acetate	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.1 mg/l	28 days
Methyl Acetate	Inhalation	endocrine system hematopoietic system liver immune system kidney and/or bladder	Not classified	Rat	NOAEL 6.1 mg/l	28 days
Cyclohexane	Inhalation	liver	Not classified	Rat	NOAEL 24 mg/l	90 days
Cyclohexane	Inhalation	auditory system	Not classified	Rat	NOAEL 1.7 mg/l	90 days
Cyclohexane	Inhalation	kidney and/or bladder	Not classified	Rabbit	NOAEL 2.7 mg/l	10 weeks
Cyclohexane	Inhalation	hematopoietic system	Not classified	Mouse	NOAEL 24 mg/l	14 weeks
Cyclohexane	Inhalation	peripheral nervous system	Not classified	Rat	NOAEL 8.6 mg/l	30 weeks
toluene	Inhalation	auditory system eyes olfactory system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
toluene	Inhalation	nervous system	May cause damage to organs though prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
toluene	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 2.3 mg/l	15 months
toluene	Inhalation	heart liver kidney and/or bladder	Not classified	Rat	NOAEL 11.3 mg/l	15 weeks
toluene	Inhalation	endocrine system	Not classified	Rat	NOAEL 1.1 mg/l	4 weeks
toluene	Inhalation	immune system	Not classified	Mouse	NOAEL Not available	20 days
toluene	Inhalation	bone, teeth, nails, and/or hair	Not classified	Mouse	NOAEL 1.1 mg/l	8 weeks
toluene	Inhalation	hematopoietic system vascular system	Not classified	Human	NOAEL Not available	occupational exposure
toluene	Inhalation	gastrointestinal tract	Not classified	Multiple animal species	NOAEL 11.3 mg/l	15 weeks
toluene	Ingestion	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 625 mg/kg/day	13 weeks
toluene	Ingestion	heart	Not classified	Rat	NOAEL 2,500 mg/kg/day	13 weeks
toluene	Ingestion	liver kidney	Not classified	Multiple	NOAEL 2,500	13 weeks

		and/or bladder		animal species	mg/kg/day	
toluene	Ingestion	hematopoietic	Not classified	Mouse	NOAEL 600	14 days
		system			mg/kg/day	
toluene	Ingestion	endocrine	Not classified	Mouse	NOAEL 105	28 days
		system			mg/kg/day	
toluene	Ingestion	immune system	Not classified	Mouse	NOAEL 105	4 weeks
					mg/kg/day	

Aspiration Hazard

Name	Value
Pentane	Aspiration hazard
Cyclohexane	Aspiration hazard
Hydrotreated Heavy Naphtha (Petroleum)	Aspiration hazard
toluene	Aspiration hazard

Exposure Levels

Refer Section 8.1 Control Parameters of this Safety Data Sheet.

Interactive Effects

Not determined.

SECTION 12: Ecological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. Additional information leading to material classification in Section 2 is available upon request. In addition, environmental fate and effects data on ingredients may not be reflected in this section because an ingredient is present below the threshold for labelling, an ingredient is not expected to be available for exposure, or the data is considered not relevant to the material as a whole.

12.1. Toxicity

Acute aquatic hazard:

GHS Acute 2: Toxic to aquatic life.

Chronic aquatic hazard:

Not chronically toxic to aquatic life by GHS criteria.

No product test data available.

Material	CAS Number	Organism	Туре	Exposure	Test endpoint	Test result
Non-Volatile Components	Trade Secret	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Dimethyl Ether	115-10-6	Bacteria	Experimental	N/A	EC10	>1,600 mg/l
Dimethyl Ether	115-10-6	Guppy	Experimental	96 hours	LC50	>4,100 mg/l
Dimethyl Ether	115-10-6	Water flea	Experimental	48 hours	EC50	>4,400 mg/l
Acetone	67-64-1	Algae or other aquatic plants	Experimental	96 hours	EC50	11,493 mg/l
Acetone	67-64-1	Invertebrate	Experimental	24 hours	LC50	2,100 mg/l
Acetone	67-64-1	Rainbow trout	Experimental	96 hours	LC50	5,540 mg/l
Acetone	67-64-1	Water flea	Experimental	21 days	NOEC	1,000 mg/l
Acetone	67-64-1	Bacteria	Experimental	16 hours	NOEC	1,700 mg/l
Acetone	67-64-1	Redworm	Experimental	48 hours	LC50	>100
Terpene polymer	31393-98-3	Activated sludge	Experimental	3 hours	NOEC	1,000 mg/l
Terpene polymer	31393-98-3	Water flea	Experimental	48 hours	No tox obs at lmt of water sol	>100 mg/l
Terpene polymer	31393-98-3	Water flea	Endpoint not reached	21 days	EL10	>100 mg/l
Pentane	109-66-0	Green algae	Experimental	72 hours	EC50	10.7 mg/l

Pentane	109-66-0	Rainbow trout	Experimental	96 hours	LC50	4.26 mg/l
Pentane	109-66-0	Water flea	Experimental	48 hours	EC50	2.7 mg/l
Pentane	109-66-0	Green algae	Experimental	72 hours	NOEC	2.04 mg/l
Isobutane	75-28-5	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Methyl Acetate	79-20-9	Bacteria	Experimental	16 hours	EC50	6,000 mg/l
Methyl Acetate	79-20-9	Green algae	Experimental	72 hours	ErC50	>120 mg/l
Methyl Acetate	79-20-9	Water flea	Experimental	48 hours	EC50	1,026.7 mg/l
Methyl Acetate	79-20-9	Green algae	Experimental	72 hours	NOEC	120 mg/l
Propane	74-98-6	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Cyclohexane	110-82-7	Bacteria	Experimental	24 hours	IC50	97 mg/l
Cyclohexane	110-82-7	Fathead minnow	Experimental	96 hours	LC50	4.53 mg/l
Cyclohexane	110-82-7	Water flea	Experimental	48 hours	EC50	0.9 mg/l
Hydrotreated Heavy Naphtha (Petroleum)	64742-48-9	Green algae	Experimental	72 hours	EL50	>1,000 mg/l
Hydrotreated Heavy Naphtha (Petroleum)	64742-48-9	Rainbow trout	Experimental	96 hours	LL50	>1,000 mg/l
Hydrotreated Heavy Naphtha (Petroleum)	64742-48-9	Water flea	Experimental	48 hours	EL50	>1,000 mg/l
Hydrotreated Heavy Naphtha (Petroleum)	64742-48-9	Green algae	Experimental	72 hours	NOEL	1,000 mg/l
toluene	108-88-3	Coho Salmon	Experimental	96 hours	LC50	5.5 mg/l
toluene	108-88-3	Grass Shrimp	Experimental	96 hours	LC50	9.5 mg/l
toluene	108-88-3	Green algae	Experimental	72 hours	EC50	12.5 mg/l
toluene	108-88-3	Leopard frog	Experimental	9 days	LC50	0.39 mg/l
toluene	108-88-3	Pink Salmon	Experimental	96 hours	LC50	6.41 mg/l
toluene	108-88-3	Water flea	Experimental	48 hours	EC50	3.78 mg/l
toluene	108-88-3	Coho Salmon	Experimental	40 days	NOEC	1.39 mg/l
toluene	108-88-3	Diatom	Experimental	72 hours	NOEC	10 mg/l
toluene	108-88-3	Water flea	Experimental	7 days	NOEC	0.74 mg/l
toluene	108-88-3	Activated sludge	Experimental	12 hours	IC50	292 mg/l
toluene	108-88-3	Bacteria	Experimental	16 hours	NOEC	29 mg/l
toluene	108-88-3	Bacteria	Experimental	24 hours	EC50	84 mg/l
toluene	108-88-3	Redworm	Experimental	28 days	LC50	>150 mg per kg of bodyweight
toluene	108-88-3	Soil microbes	Experimental	28 days	NOEC	<26 mg/kg (Dry Weight)

12.2. Persistence and degradability

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Non-Volatile Components	Trade Secret	Data not available- insufficient	N/A	N/A	N/A	N/A
Dimethyl Ether	115-10-6	Experimental Biodegradation	28 days	BOD	5 %BOD/ThOD	OECD 301D - Closed bottle test
Dimethyl Ether	115-10-6	Experimental Photolysis		Photolytic half-life (in air)	12.4 days (t 1/2)	
Acetone	67-64-1	Experimental Biodegradation	28 days	BOD	78 %BOD/ThOD	OECD 301D - Closed bottle test
Acetone	67-64-1	Experimental Photolysis		Photolytic half-life (in air)	147 days (t 1/2)	
Terpene polymer	31393-98-3	Experimental Biodegradation	28 days	BOD	4 %BOD/ThOD	OECD 301D - Closed bottle test
Pentane	109-66-0	Experimental Biodegradation	28 days	BOD	87 %BOD/ThOD	OECD 301F - Manometric respirometry

Pentane	109-66-0	Experimental		Photolytic half-life	8.07 days (t 1/2)	
		Photolysis		(in air)		
Isobutane	75-28-5	Experimental		Photolytic half-life	13.4 days (t 1/2)	
		Photolysis		(in air)		
Methyl Acetate	79-20-9	Experimental	28 days	BOD	70 %BOD/ThOD	OECD 301D - Closed bottle
-		Biodegradation				test
Propane	74-98-6	Experimental		Photolytic half-life	27.5 days (t 1/2)	
-		Photolysis		(in air)		
Cyclohexane	110-82-7	Experimental	28 days	BOD	77 %BOD/ThOD	OECD 301F - Manometric
-		Biodegradation				respirometry
Cyclohexane	110-82-7	Experimental		Photolytic half-life	4.14 days (t 1/2)	
-		Photolysis		(in air)		
Hydrotreated	64742-48-9	Experimental	28 days	BOD	31 %BOD/ThOD	OECD 301F - Manometric
Heavy Naphtha		Biodegradation				respirometry
(Petroleum)						
toluene	108-88-3	Experimental	20 days	BOD	80 %BOD/ThOD	APHA Std Meth
		Biodegradation				Water/Wastewater
toluene	108-88-3	Experimental		Photolytic half-life	5.2 days (t 1/2)	
		Photolysis		(in air)		

12.3 : Bioaccumulative potential

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Non-Volatile Components	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Dimethyl Ether	115-10-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Acetone	67-64-1	Experimental BCF - Other		Bioaccumulation factor	0.65	
Acetone	67-64-1	Experimental Bioconcentration		Log Kow	-0.24	
Terpene polymer	31393-98-3	Experimental Bioconcentration		Log Kow	7.41	
Pentane	109-66-0	Estimated Bioconcentration		Bioaccumulation factor	26	
Isobutane	75-28-5	Experimental Bioconcentration		Log Kow	2.76	
Methyl Acetate	79-20-9	Experimental Bioconcentration		Log Kow	0.18	
Propane	74-98-6	Experimental Bioconcentration		Log Kow	2.36	
Cyclohexane	110-82-7	Experimental BCF - Fish	56 days	Bioaccumulation factor	129	OECD305-Bioconcentration
Hydrotreated Heavy Naphtha (Petroleum)	64742-48-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
toluene	108-88-3	Experimental BCF - Other	72 hours	Bioaccumulation factor	90	
toluene	108-88-3	Experimental Bioconcentration		Log Kow	2.73	

12.4. Mobility in soil

Please contact manufacturer for more details

12.5 Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Disposal methods

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Incinerate in a permitted waste incineration facility. As a disposal alternative, utilize an acceptable permitted waste disposal facility.

SECTION 14: Transport Information

Australian Dangerous Goods Code (ADG) - Road/Rail Transport UN No.: UN3501 Proper shipping name: CHEMICAL UNDER PRESSURE, FLAMMABLE, N.O.S. Class/Division: 2.1 Sub Risk: Not applicable. Packing Group: Not applicable.

Hazchem Code: 2YE IERG: 04

International Air Transport Association (IATA) - Air Transport UN No.: UN3501 Proper shipping name: CHEMICAL UNDER PRESSURE, FLAMMABLE, N.O.S., (DIMETHYL ETHER, PROPANE) Class/Division: 2.1 Sub Risk: Not applicable. Packing Group: Not applicable.

International Maritime Dangerous Goods Code (IMDG)- Marine Transport UN No.: UN3501 Proper shipping name: CHEMICAL UNDER PRESSURE, FLAMMABLE, N.O.S. Class/Division: 2.1 Sub Risk: Not applicable. Packing Group: Not applicable. Marine Pollutant: Not applicable.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Australian Inventory Status:

All components of this product are listed on or exempt from the Australian Inventory of Industrial Chemicals (AIIC). Conditions may apply prior to introduction for direct importers of this product, Please contact 3M Australia on 136 136 for further details.

SECTION 16: Other information

Revision information:

Update to formulation and/or composition.

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Safety Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications.

Greenguard ® is a United States based program. The 'Low VOC' reference related to United States Federal and State regulations exemptions for some solvents.

3M Australia SDSs are available at www.3m.com.au